

ABSTRACT

Special liquid droplet targets that are irradiated by a high power laser and are plasmarized to form a point source EUV, XUV and x-ray source. Various types of liquid droplet targets include metallic solutions, and nano-sized particles in solutions having a melting temperature lower than the melting temperature of some or all of the constituent metals, used a laser point source target droplets. The solutions have no damaging debris and can produce plasma emissions in the X-rays, XUV, and EUV(extreme ultra violet) spectral ranges of approximately 0.1 nm to approximately 100 nm, approximately 11.7nm and 13nm, approximately 0.5 nm to approximately 1.5 nm, and approximately 2.3 nm to approximately 4.5 nm. The second type of target consists of various types of liquids which contain as a miscible fluid various nano-size particles of different types of metals and non-metal materials.